

Post-examination Comments

**VOGTLE MAY 2005 EXAM
50-424, 425/2005-301**

**MAY 17 - 25, 2005
MAY 27, 2005 (WRITTEN)**

Licensee Submitted Post-Examination Comments

☒ Attached

☐ None

Southern Nuclear
Operating Company, Inc.
Vogtle Electric Generating Plant
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June 3, 2005

NOT-03991

Docket Nos. 50-424
50-425

U. S. Nuclear Regulatory Commission, Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street S. W. - Suite 23T85
Atlanta, Georgia 30303-8931

ATTN: Mr. J. H. Moorman, III

VOGTLE ELECTRIC GENERATING PLANT
SITE SPECIFIC OPERATOR WRITTEN EXAM COMMENTS

Dear Mr. Moorman:

Attached please find comments for the site specific operator written examination administered on May 27, 2005. These comments are being submitted in accordance with NUREG-1021 Revision 9, ES-402.

Please contact R. Lee Mansfield at 706-826-3936 if you should have questions.

Sincerely,

W. F. Kitchens

W. F. Kitchens
General Manager

W.F. *RLM*
DS/RLM/RJB/WFK/jmw

Attachment

xc: Mr. R. J. Brown
R-Type C5000

JUN 6 2005

QUESTION 65:

The #1 Gas Decay Tank on Unit 2 is being released in accordance with 13202-2, Gaseous Releases. After the release has been underway for 10 minutes, Flow Transmitter, A-FT-0014, fails low. Which ONE of the following correctly states the actions that are required by 13202-2?

- A. The release does not need to be terminated unless Waste Gas Processing System Effluent Monitor, A-RE-0014, becomes inoperable or its setpoint is exceeded.
- B. The release must be terminated. It may not be recommenced until A-FT-0014 is repaired.
- C. The release does not need to be terminated. It may continue provided release rates are manually calculated.
- D. The release must be terminated. It may be recommenced provided release rates are manually calculated.

ANSWER: D

REFERENCES:

1. 13202-2, Gaseous Releases, Rev. 8, 09/24/2003.

COMMENT:

The Offsite Dose Calculation Manual (ODCM) allows the release to continue for this failure. Refer to ODCM section 3.1. With FT-0014 inoperable paragraph 3.1.1.2 states to take the action shown in table 3-1. Action 46 applies from Table 3-1 and states "With the number of channels operable less than required by the Minimum Channels Operable requirement, effluent releases via this pathway may continue provided the flowrate is estimated at least once per 4 hours.

ODCM paragraph 3.1.1.2 only requires termination of the release if the alarm / trip setpoint is less conservative than required.

RECOMMENDATION:

Accept choice C as an alternate correct choice due to the conflicting requirements between the ODCM and the procedure.

CHAPTER 3 GASEOUS EFFLUENTS

3.1 LIMITS OF OPERATION

The following Limits of Operation implement requirements established by Technical Specifications Section 5.0. Terms printed in all capital letters are defined in Chapter 10.

3.1.1 Gaseous Effluent Monitoring Instrumentation Control

In accordance with Technical Specification 5.5.4.a, the radioactive gaseous effluent monitoring instrumentation channels shown in Table 3-1 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Section 3.1.2.a are not exceeded. The alarm/trip setpoints of these channels shall be determined in accordance with Section 3.3.

3.1.1.1 Applicability

These limits apply as shown in Table 3-1.

3.1.1.2 Actions

With a radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above control, immediately suspend the release of radioactive gaseous effluents monitored by the affected channel, declare the channel inoperable, or restore the setpoint to a value that will ensure that the limits of Section 3.1.2.a are met.

With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3-1. Restore the inoperable instrumentation to operable status within 30 days, or if unsuccessful, explain in the next Radioactive Effluent Release Report, per Technical Specification 5.6.3, why this inoperability was not corrected in a timely manner.

This control does not affect shutdown requirements or MODE changes.

3.1.1.3 Surveillance Requirements

Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL OPERATIONAL TEST operations at the frequencies shown in Table 3-2.

3.1.1.4 Basis

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The Alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in Section 3.3 to ensure that the alarm/trip will occur prior to exceeding the limits of Section 3.1.2.a. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50.

Table 3-1. Radioactive Gaseous Effluent Monitoring Instrumentation

Instrument	OPERABILITY Requirements		
	Minimum Channels OPERABLE	Applicability	ACTION
1. GASEOUS RADWASTE TREATMENT SYSTEM (Common)			
a. Noble Gas Activity Monitor, with Alarm and Automatic Termination of Release (ARE-0014)	1	During releases ^a	45
b. Effluent System Flowrate Measuring Device (AFT-0014)	1	During releases ^a	46
2. Turbine Building Vent (Each Unit)			
a. Noble Gas Activity Monitor (RE-12839C)	1	During releases ^a	47
b. Iodine and Particulate Samplers (RE-12839A & B)	1	During releases ^a	51
c. Flowrate Monitor (FT-12839 or FIS-12862) ^b	1	During releases ^a	46
d. Sampler Flowrate Monitor (FI-13211)	1	During releases ^a	46
3. Plant Vent (Each Unit)			
a. Noble Gas Activity Monitor (RE-12442C or RE-12444C)	1	At all times	47,48
b. Iodine Sampler/Monitor (RE-12442B or RE-12444B)	1	At all times	51
c. Particulate Sampler/Monitor (RE-12442A or RE-12444A)	1	At all times	51
d. Flowrate Monitor (FT-12442 or 12835)	1	At all times	46
e. Sampler Flowrate Monitor (FI-12442 or FI-12444)	1	At all times	46
4. Radwaste Processing Facility Vent (Common)			
a. Particulate Monitor (ARE-16980)	1	During Releases ^a	51

a. "During releases" means "During radioactive releases via this pathway."

b. During emergency filtration.

Table 3-1 (contd).

Notation for Table 3-1 — ACTION Statements

ACTION 45 — With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, the contents of the tank(s) may be released to the environment for up to 14 days provided that prior to initiating the release:

- a. At least two independent samples of the tank's contents are analyzed, and
- b. At least two technically qualified members of the Facility Staff independently verify the discharge line valving, and verify the release rate calculations.

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 46 — With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided the flowrate is estimated at least once per 4 hours.

ACTION 47 — With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue provided grab samples are taken at least once per 12 hours and these samples are analyzed for radioactivity within 24 hours.

ACTION 48 — With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, immediately suspend containment purging of radioactive effluents via this pathway.

ACTION 49 — (Not Used)

ACTION 50 — (Not Used)

ACTION 51 — With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via the affected pathway may continue provided samples are continuously collected with auxiliary sampling equipment.

SRO EXAM QUESTION 88:

The following Unit 1 conditions exist:

- A loss of offsite power occurs
- Offsite power is projected to be unavailable for several hours and the SAT is unavailable
- Both Emergency Diesel Generators (EDGs) have a speed of 440 rpm
- A common voltage regulator malfunction has occurred in both EDGs resulting in:
 - The "A" EDG voltage reaching 4000 VAC
 - The "B" EDG voltage reaching 3700 VAC
 - Neither EDG output voltage can be raised above its current indication
- The following alarms are energized:
 - ALB38-E01, "DG1B TROUBLE"
 - ALB38-E02, "DG1B LOW VOLTAGE"
 - All Train "B" 4160 VAC and 480 VAC switchgear MCC trouble alarms on ALB37
 - ALB37-A04, "SEQ B TROUBLE" energized

Which ONE of the following correctly describes the actions the USS should direct to mitigate the electrical problems?

- A. Direct the operator to Emergency Trip both EDGs and implement 19100-C, "ECA-0.0 Loss of All AC Power" and 13145-1, "Diesel Generators" to swap to the alternate voltage regulators for both EDGs.
- B. Direct the operator to Emergency Trip both EDGs and implement 19100-C, "ECA-0.0 Loss of All AC Power" and 13427-1, "4160 V AC 1E Electrical Distribution System" to restore offsite power to either emergency bus when an offsite source is made available.
- C. Direct the operator to Emergency Trip EDG 1B and implement 18031-C, "Loss of Class 1E Electrical Systems" and 13145-1, "Diesel Generators" to swap to the alternate voltage regulators for EDG 1B.
- D. Do not trip either EDG. Implement 18031-C, "Loss of Class 1E Electrical Systems" and 13145-1, "Diesel Generators" to swap to the alternate voltage regulators for the EDGs. The voltage regulator swaps can occur with the EDGs running.

ANSWER: C

REFERENCES:

1. 18031-C, Loss of Class 1E Electrical Systems, Rev. 20.1, 12/19/2003.
2. 19100-C, ECA-0.0 Loss of All AC Power, Rev. 28, 12/19/2003.
3. 13145-1, Diesel Generators, Rev. 56, 07/22/2004.
4. 13427-1, 4160V AC 1E Electrical Distribution System, Rev. 34.1, 08/01/2003.
5. V-LO-TX-11101, Emergency Diesel Generator, Rev. 4.

COMMENT:

Given that you have a common voltage regulator malfunction and you do not have any control over EDG output voltages as stated in the question stem the SRO could opt to stop both emergency diesel generators and swap them over to the alternate voltage regulators.

There is no definitive procedural guidance for the situation given in the question stem other than the guidance in procedure 10020-C step 3.1.1.

Without any control of output voltage on the EDGs the operator is still concerned about the ability to

properly control the EDGs to prevent equipment damage. You have 2 correct choices here, either stop one EDG and swap voltage regulators or stop both EDGs to swap their voltage regulators. Stopping both EDGs to restore control of DG output voltage is a viable success path for the situation given and is covered under the guidance of procedure 10020-C step 3.1.1.c. (System failures require operator intervention for reactor or personnel safety).

Stopping DGs to protect the equipment is consistent with our expectations. Another example of this would be if there was no or inadequate cooling by NSCW for the EDGs, we would expect the operator to stop the EDGs to protect the equipment, fix the problem, then restart the EDG.

RECOMMENDATION: Accept choice A as an alternate answer for this question.

2.1.2 AOP Numbering

Example Numbering:

18 033 - C

18 033 - C

 └─ AOPs are common, or similar for Unit
 and Unit 2

 └─ Sequential Number

 └─ Indicates AOP

3.0 INSTRUCTIONS FOR PERFORMING EOPs AND AOPs

NOTE

Sections 3.1.0 through 3.6.0 apply to both EOPs and AOPs unless specific EOP instructions are given. Section 3.7 applies to EOPs only.

3.1 GUIDELINES FOR FOLLOWING STEPS

3.1.1.1 Consistent with training and knowledge, operators are expected to take actions that stabilize the plant and mitigate consequences of events after performing AOP or EOP Immediate Operator Actions when the following conditions exist:

- a. The setpoint for actuation is exceeded and automatic actuation does not occur.
- b. The control of process is required to maintain procedural parameter limits.
- c. System failures require operator intervention for reactor or personnel safety.

Operators shall notify the USS when actions are required to be taken per this guidance.

3.1.2 EOPs (as well as AOPs) are entered based on the Entry Conditions or Symptoms at the beginning of the procedure. Operators are expected to be knowledgeable of these without referral.

3.1.1.3 Initial entry into the EOPs will be to 19000-C, E-0 REACTOR TRIP OR SAFETY INJECTION, unless both emergency AC buses are de-energized. The operator may enter 19100-C, ECA-0.0 LOSS OF ALL AC POWER, directly based on symptoms.

SRO EXAM QUESTION 90:

(Issue specific to Applicant X.)

Which ONE of the following states a condition that would require entry into the Containment Pressure Technical Specification (LCO 3.6.4) action statement and the Technical Specification Basis for that requirement? (Assume Unit 1 is in Mode 1.)

- A. Containment pressure is + 1.8 psig (positive 1.8 psig). The high containment pressure requirement is in place as an Accident Analysis input for the Loss Of Coolant Accident (LOCA), which is more limiting than the Steam Line Break (SLB) Accident Analysis with respect to peak containment pressure. Therefore, the LOCA analysis bounds the SLB analysis with respect to peak containment pressure.
- B. Containment pressure is + 1.9 psig (positive 1.9 psig). The high containment pressure requirement is in place as an Accident Analysis input for the Steam Line Break (SLB) Accident Analysis, which is more limiting than the Loss Of Coolant Accident (LOCA) with respect to peak containment pressure. Therefore, the SLB analysis bounds the LOCA analysis with respect to peak containment pressure.
- C. Containment pressure is - 0.3 psig (negative 0.3 psig). The low containment pressure requirement protects against a containment design negative pressure limit of - 2.0 psig (negative 2.0 psig) in the event of an inadvertant containment spray actuation.
- D. Containment pressure is - 0.4 psig (negative 0.4 psig). The low containment pressure requirement protects against a containment design negative pressure limit of - 3.0 psig (negative 3.0 psig) in the event of an inadvertant containment spray actuation.

ANSWER: D

REFERENCES:

1. Technical Specification LCO 3.6.4
2. Technical Specification Bases for LCO 3.6.4

COMMENT:

Candidate selected answer 'D' in his exam package but inadvertently colored in 'B' on his answer sheet.

RECOMMENDATION: Accept answer 'D' as selected in his exam package.

The original exam package is provided for reference. The original exam package has been under control of personnel covered under the exam security agreements since turned it in on 5/27/05.

SRO EXAM QUESTION 94

While performing an emergency downpower, all annunciators in the Unit 1 Control Room are unexpectedly lost at 0900 hours and the SS makes an emergency classification at 0910 hours.

Which ONE of the following describes the emergency classification and required notifications?

- A. The SS was required to declare a NOUE and was expected to notify plant personnel by 0905.
- B. The SS was required to declare a NOUE and was expected to notify plant personnel by 0915.
- C. The SS was required to declare an Alert and was expected to notify plant personnel by 0905.
- D. The SS was required to declare an Alert and was expected to notify plant personnel by 0915.

ANSWER: D

REFERENCES:

1. I.O-LP-40101-39-C, EPIP Overview, Rev. 39, 05/03/2004
2. 91001-C, Emergency Classification and Implementing Instructions, Rev 20.1, 09/12/2000.

COMMENT:

During the exam, one student asked the proctor if the "emergency downpower" was being performed per 18013-C, "Rapid Power Reduction". This question arose because the Operations Manager has taken a position that 18013-C is not a transient and thus all reactivity management controls such as peer checks and SS approval and oversight would apply while in this procedure. After a phone discussion with Mark Bates, we chose to answer the student with "The emergency downpower is not being performed in accordance with 18013-C. Additionally, this response was provided to the entire class with hopes of clarifying that a transient was indeed in progress. While this response cleared up the issue for the student that asked the question, it drove other students to think just the opposite; that the emergency downpower was even less significant and thus not a transient. Considering the emergency downpower a transient was vital in calling the loss of annunciators an Alert. If the student thought the emergency downpower was not a transient, the correct declaration would be an NOUE.

RECOMMENDATION:

Accept answers B and D. In a sincere attempt to clarify a plant condition for one student, other students were driven to an incorrect answer even to the point of changing from the correct answer to the incorrect answer on their exam page.

SRO EXAM QUESTION 97:

The USS has received a completed release permit for the following tanks:

- Waste Monitor Tank 009 (Unit 1)
- Waste Monitor Tank 010 (Unit 2)

Due to the plant schedule, Operations Management would like both tanks to be released at the same time in accordance with 13216-1 and 13216-2, Liquid Waste Release.

Which ONE of the following correctly states the procedure requirements given the above conditions?

- A. Two tanks may never be released at the same time under any conditions.
- B. Two tanks may be released without additional authorization because they are on different Units.
- C. The two tanks may be released simultaneously as long as the USS receives authorization from the Chemistry Superintendent.
- D. The two tanks may be released simultaneously as long as the USS receives authorization from the HP Supervisor.

ANSWER: C


REFERENCES:

13216-1, Liquid Waste Release, Rev 32, 08/05/2004
13216-2, Liquid Waste Release, Rev 19, 08/05/2004

COMMENT:

Procedure 36015-C, Radioactive Liquid Effluent Release Permit Generation and Data Control Computer Method, requires approval of the Chemistry Manager for the simultaneous release of waste monitor tanks on different units. Given the 4 choices A is the most correct response.

Change correct answer to choice A.

Approved By W. F. Kitchens	Vogtle Electric Generating Plant 	Procedure Number 36015-C	Rev 23
Date Approved 05/13/2005	RADIOACTIVE LIQUID EFFLUENT RELEASE PERMIT GENERATION AND DATA CONTROL COMPUTER METHOD	Page Number 5 of 40	

- 2.9** Simultaneous monitor tank releases from two different units shall not be allowed without authorization from the Chemistry Manager. The Chemistry Manager may authorize simultaneous monitor tank discharges, by ensuring allocation factors are properly modified to meet ODCM requirements, prior to simultaneous discharges.
- 2.10** Prior to processing any liquid release permit, on May first and January first the Nuclear Specialist will verify that the software has been changed to the proper "z" value.
- 2.11** The more restrictive 31 day dose projections for liquid effluents, specified in ODCM requirement 2.1.4, are utilized in the EMS liquid release computer software AT ALL TIMES. If notified by the Radwaste Group that the Liquid Waste Processing System is not being fully utilized to process liquid waste, ensure that the "LIMITS EXCEEDED" field on the terminal screen says "NONE", and that SECTION V of the permit indicates the release meets all ODCM requirement.
- 2.12** The more restrictive 31 day dose projections for liquid effluents, specified in ODCM requirement 2.1.4 are utilized in the EMS computer software AT ALL TIMES. If the computer indicates these more restrictive limits will be exceeded for a particular release, Chemistry Supervision should evaluate the proposed release as follows:
- 2.12.1** Contact Radwaste Group and VERIFY that the Liquid Waste Processing System is being fully utilized. This will allow using the higher (less restrictive) quarterly and annual effluent dose limits of ODCM requirements in 2.1.3.
- 2.12.2** Verify that the proposed release does not exceed the limits of ODCM Section 2.1.3.
- 2.12.3** Utilizing the appropriate password (available through the Nuclear Specialist), override the "Permit Limits Exceeded" step and continue permit processing.
- 2.12.4** Document verification of Liquid Waste Processing System being fully utilized and verification that the proposed release will not exceed the dose limits of ODCM requirement 2.1.3 on Section V of the release permit. Sign and date Section V of the release permit.
- 3.0** **PREREQUISITES**
- 3.1** Adequate assured dilution flow should be available during a release of radioactive liquids.
- 3.2** The Process and Effluent Radiation Monitoring System (PERMS) shall be operable and the appropriate monitor setpoint established per the requirements of the ODCM prior to release of radioactive liquids or the requirements of Step 2.3 of this procedure shall be met.